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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,259

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Sergio Lolli

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EXAMINER

LIU, HENRY Y

ART UNIT

PAPER NUMBER

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MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,259	Applicant(s) LOLLI ET AL.	
	Examiner HENRY LIU	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments filed 4/27/2009 have been fully considered but they are moot in view of new grounds of rejection.

Rejection to Amended Claims

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over ALI (2002/0039944) in view of BARTOS (4,758,208).

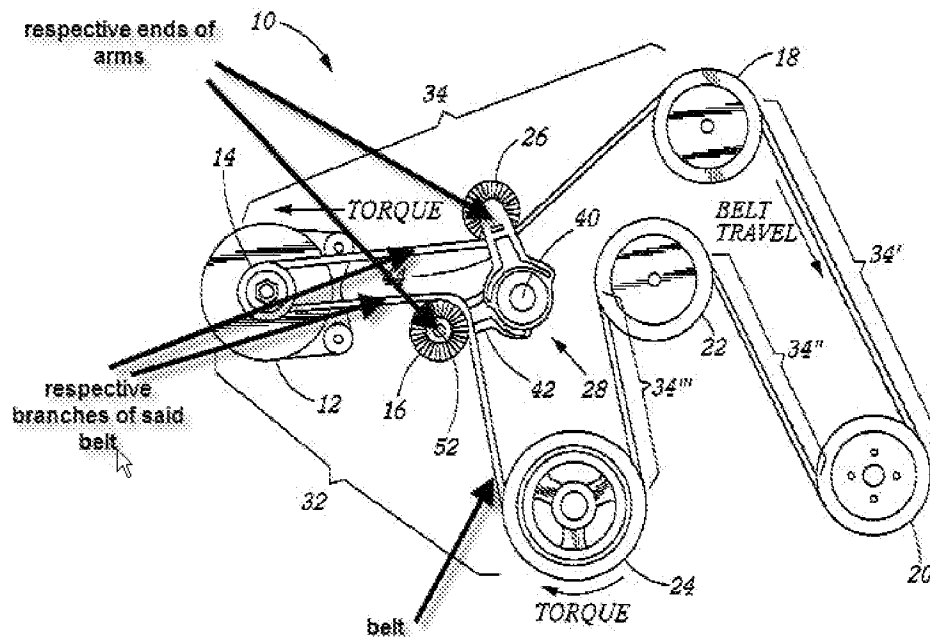
Regarding Claim 1, ALI teaches "a two-arm belt tensioner for a belt drive (28) (Fig. 1), comprising: a fixed portion (50) (Fig. 3), designed to be fixed to a supporting

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structure.” The mounting base (50) is affixed upon a point stationary in relation to the cylinder block of the engine ([0044]).

ALI teaches “a first arm (42) (Fig. 3) and a second arm (44) (Fig. 3), carried by said fixed portion (50) and hinged thereto about a common axis.” Fig. 3 illustrates that the arms pivot around the cylindrical axis of pivot bolt (40) (Fig. 3).

ALI teaches “a first pulley (16) (Fig. 3) and a second pulley (26) (Fig. 3), mounted idle on respective ends of said arms (42, 44) (Fig. 3) and designed to cooperate with respective branches of a belt (30) ([0034]) of said drive (28).” See figure below.



ALI teaches “and elastic means (38), which force said arms (42, 44) towards one another to maintain said pulleys (16, 26) in contact with said respective branches of the belt ([0046]).”

ALI teaches “said fixed portion (50) comprising a base plate (58) (Fig. 5), a pin (40) (Fig. 3) fixed to said plate (58) and defining said common axis of rotation of the two arms (44, 42).” Fig. 3 illustrates that the arms pivot around the cylindrical axis of pivot bolt (40) (Fig. 3).

ALI does not teach “said arms comprising first arrest elements which are designed to interact with said fixed portion to define respective first positions of arrest of said arms under the action of said elastic means, and respective second arrest elements, which are designed to interact with said fixed portion to define respective second positions of end-of-travel of said arms under the action of the pull of said belt.” ALI also does not teach “said belt tensioner being characterized in that said fixed portion includes a single appendage fixed to said base plate and defining an element of contrast for said first and second arrest elements of said arms.”

BARTOS teaches arms (30) (32) comprising first arrest elements which are designed to interact with said fixed portion (50) to define respective first positions of arrest of said arms under the action of said elastic means, and respective second arrest elements, which are designed to interact with said fixed portion to define respective second positions of end-of-travel of said arms under the action of the pull of said belt (18).” BARTOS also teaches “said belt tensioner being characterized in that said fixed portion (50) includes a single appendage (50) fixed to said base plate (22) and defining

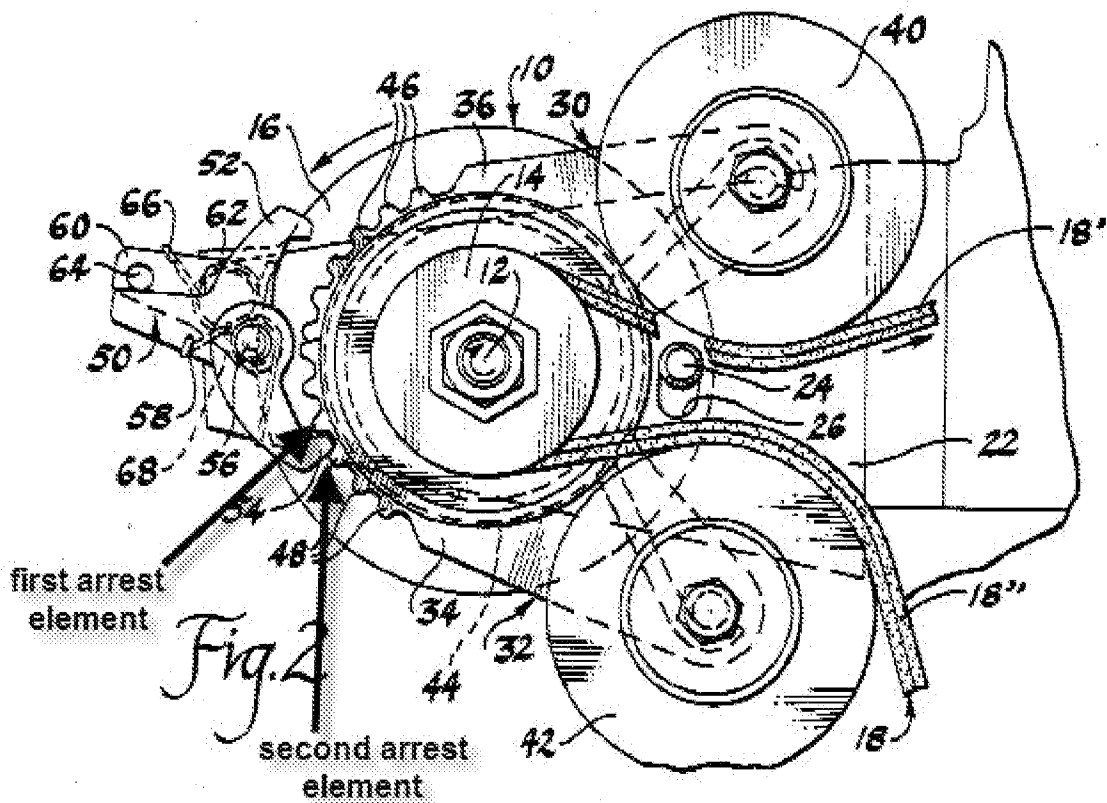
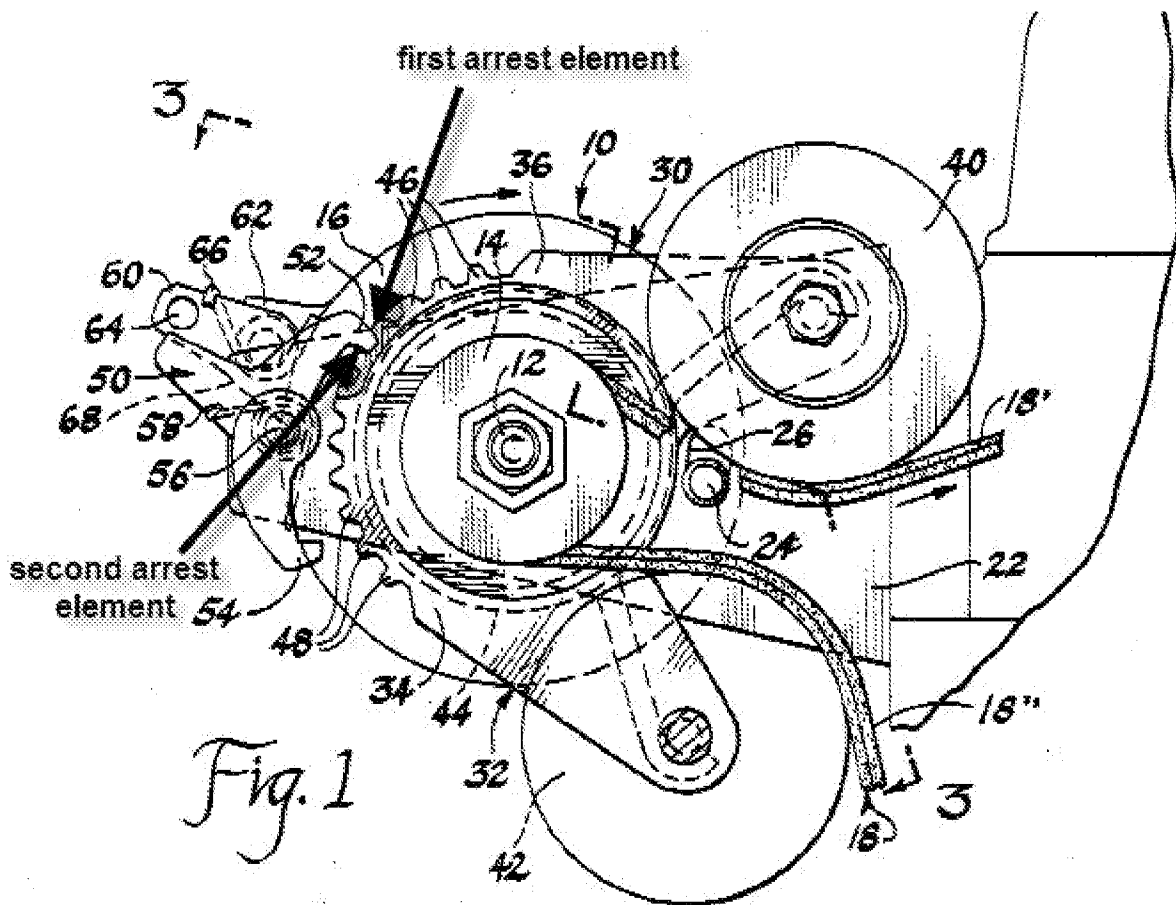
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an element of contrast for said first and second arrest elements of said arms (30) (32).”

The broad claim language “element of contrast” does not limit the Claim. Arbitrarily, the fixed portion (50) is an element of contrast since it is separate from the arrest elements.

See figure below.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual pulley tensioner in ALI with the pawl mechanism in BARTOS. The combination allows the tensioner to automatically select which tensioner arm should be active in a belt drive system where a drive system component switches between being a driven component and being a driving component.

Regarding Claim 2, ALI as modified teaches “characterized in that said at least one of said first and second arrest elements (BARTOS Fig. 1 and Fig. 2) of said arms (ALI (44, 42)) comprises a radial projection (BARTOS Fig. 1 and Fig. 2), which extends from the respective arm (BARTOS (30) (32)) and is designed to interact with said appendage (BARTOS (50)) of said fixed portion (BARTOS (22)) (Fig. 1 and Fig. 2).”

Regarding Claim 3, ALI as modified does not teach “characterized in that at least one of said arms comprises a hub, which houses at least partially said base plate.”

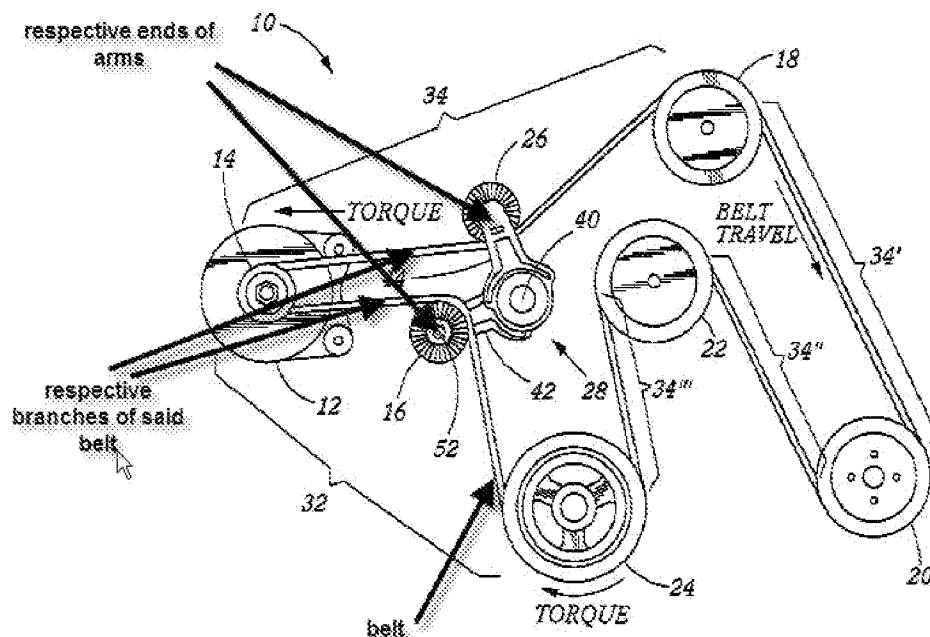
BARTOS teaches “characterized in that at least one of said arms (30, 32) comprises a hub (20), which houses at least partially said base plate (22).” The hub partially houses (20) by covering the plate (22) surface adjacent to it.

It would have been obvious to one of ordinary skill in the art to modify the tensioner in ALI such that the hub covers the plate surface in order to fasten the tensioner to the plate in a simple and secure manner.

Regarding Claim 5, ALI as modified teaches “characterized in that said elastic means comprise a spiral spring (ALI (38)) (Fig. 3) and in that one of said arms (ALI (44)) comprises a cup-shaped hub (ALI (48)), which houses said spring (ALI (38)) , said spring (ALI (38)) being constrained, with its own outer end, to said hub (ALI (48) (68), Fig. 5) and, with its own inner end, to the other arm (ALI (42)(46)(36), Fig. 5).”

Regarding Claim 6, ALI teaches “a belt drive (10) (Fig. 2) for connecting a reversible electric machine (12) (Fig. 2) to an engine shaft (24) ([0031]) (Fig. 2) of an internal-combustion engine ([0004]), said electric machine (12) being operable as an electric machine for starting said internal-combustion engine or as generator ([0034]), said drive (10) comprising: at least one first pulley (24) fitted on the engine shaft ([0031]) (Fig. 2) of said internal-combustion engine ([0004]); a second pulley (14) (Fig. 2) fitted on a shaft of said electric machine (12).” Electric generators in which pulleys are mounted inherently have shafts to mount the pulleys.

ALI teaches “and a belt wound around said pulleys (24, 14) said belt comprising: a first branch and a second branch set respectively between said first pulley (24) and said second pulley (14) and between said second pulley (14) and said first pulley (24) in the direction of motion of the belt itself; and a two-arm belt tensioner (28) (Fig. 2).” See figure below.



ALI teaches “which comprises: a fixed portion (50) (Fig. 3), designed to be fixed to a supporting structure ([0044]); a first arm (42) (Fig. 3) and a second arm (44) (Fig. 3), carried by said fixed portion (50) and hinged thereto about a common axis.” Fig. 3 illustrates that the arms pivot around the cylindrical axis of pivot bolt (40) (Fig. 3).

ALI teaches “a first pulley (16) and a second pulley (26), mounted idle on respective ends of said arms (42, 44) and designed to co-operate respectively with said first branch and with said second branch of said belt (Fig. 2) and elastic means (38) (Fig. 4), which force said arms (42, 44) towards one another to maintain said pulleys (16, 26) in contact with said respective branches of the belt ([0046]).”

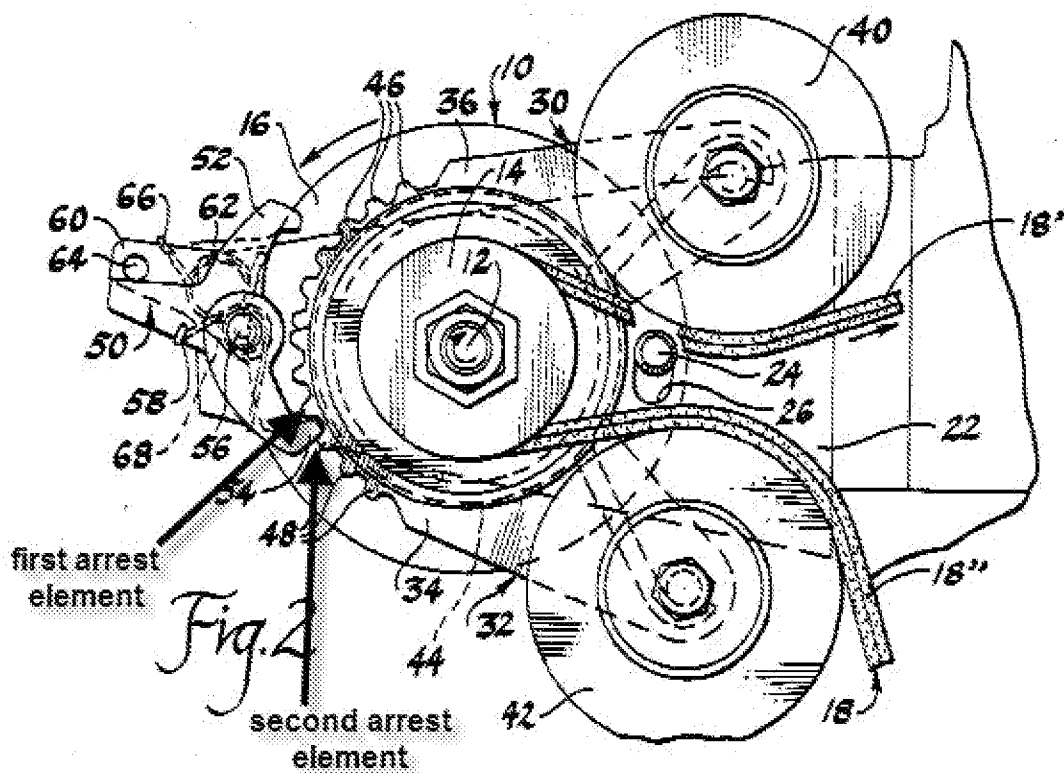
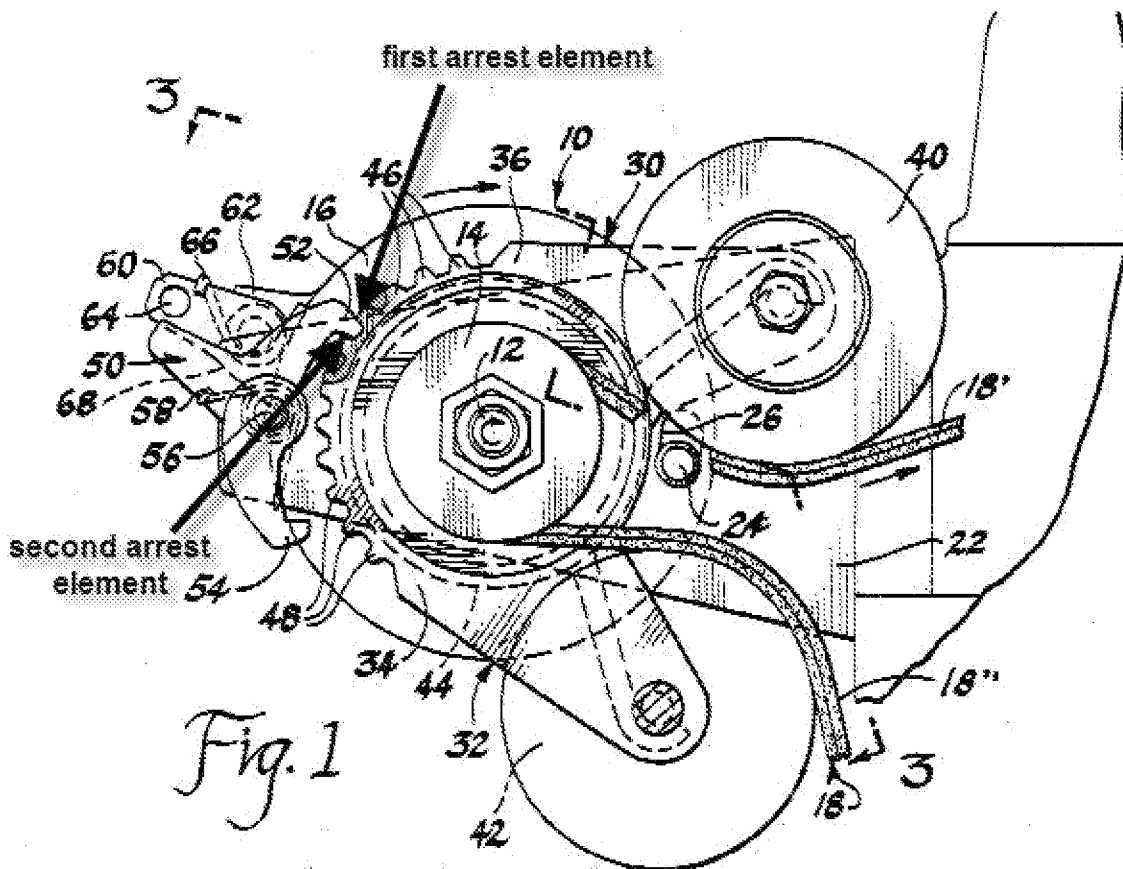
ALI teaches “said fixed portion (50) comprising a base plate (58) (Fig. 5), a pin (40) (Fig. 3) fixed to said plate (58) and defining said common axis of rotation of the two

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arms (44, 42).” Fig. 3 illustrates that the arms pivot around the cylindrical axis of pivot bolt (40) (Fig. 3).

ALI does not teach “said arms comprising first arrest elements which are designed to interact with said fixed portion to define respective first positions of arrest of said arms under the action of said elastic means, and respective second arrest elements, which are designed to interact with said fixed portion to define respective second positions of end-of-travel of said arms under the action of the pull of said belt.” ALI also does not teach “said belt tensioner being characterized in that said fixed portion includes a single appendage fixed to said base plate and defining an element of contrast for said first and second arrest elements of said arms.”

BARTOS teaches arms (30) (32) comprising first arrest elements which are designed to interact with said fixed portion (50) to define respective first positions of arrest of said arms under the action of said elastic means, and respective second arrest elements, which are designed to interact with said fixed portion to define respective second positions of end-of-travel of said arms under the action of the pull of said belt (18).” BARTOS also teaches “said belt tensioner being characterized in that said fixed portion (50) includes a single appendage (50) fixed to said base plate (22) and defining an element of contrast for said first and second arrest elements of said arms (30) (32).” The broad claim language “element of contrast” does not limit the Claim. Arbitrarily, the fixed portion (50) is an element of contrast since it is separate from the arrest elements.



It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual pulley tensioner in ALI with the pawl mechanism in BARTOS. The combination allows the tensioner to automatically select which tensioner arm should be active in a belt drive system where a drive system component switches between being a driven component and being a driving component.

Regarding Claim 7, ALI as modified does not teach “characterized in that said elastic means (ALI (38) have a rigidity calculated so as to bring about a rotation of each arm (ALI (42, 44) of the tensioner up to the respective second position of arrest (BARTOS (Fig. 1 and Fig. 2)) in the presence of a maximum value of tension of the respective branch of the belt.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to tune a spring to allow arm movement to a set position when a maximum tension is reached in a belt, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ. Here, a maximum arm movement position is disclosed and a spring imparting a biasing force is disclosed. Having an elastic means rigidity calculated so as to bring about a rotation of each arm of the tensioner up to the respective second position of arrest in the presence of a maximum value of tension of the respective branch of the belt is merely an optimum or working spring force to impart proper belt tensioning characteristics.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over ALI (2002/0039944) in view of BARTOS (4,758,208), as set forth in the discussion of Claim 1, and further in view of OLIVER (6,689,001) .

Regarding Claim 4, ALI as modified does not teach “characterized in that said first and second arrest elements (74 and 75) are provided with respective buffers made of elastic material for absorbing the impact with said fixed portion (ALI (50)) (BARTOS Fig. 1, Fig. 2).”

OLIVER teaches bushings (54) (56) (Fig. 2) mounted on arms (24) (26) (Fig. 2) made with hard rubber (Col. 6 lines 22-32).

It would have been obvious to modify the arrest elements in ALI as modified with the hard rubber bushings in OLIVER to eliminate potential resonance vibration.

Regarding Claim 5, ALI as modified teaches “characterized in that said elastic means comprise a spiral spring (ALI (38)) (Fig. 3) and in that one of said arms (ALI (44)) comprises a cup-shaped hub (ALI (48)), which houses said spring (ALI (38)) , said spring (ALI (38)) being constrained, with its own outer end, to said hub (ALI (48) (68), Fig. 5) and, with its own inner end, to the other arm (ALI (42)(46)(36), Fig. 5).”

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY LIU whose telephone number is (571) 270-7018. The examiner can normally be reached on Mon-Thurs 7:30am - 5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT SICONOLFI can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HENRY LIU/
Examiner, Art Unit 3657

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art
Unit 3657